

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

Corrected version

To:

see form PCT/ISA/220

PCT

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

### FOR FURTHER ACTION

See paragraph 2 below

International application No.  
PCT/GB2004/002891

International filing date (day/month/year)  
05.07.2004

Priority date (day/month/year)  
03.07.2003

International Patent Classification (IPC) or both national classification and IPC  
A61K7/42, C08K3/22, C08K3/00, C09D7/12, D06M11/44, D06M11/46, G03C1/815

Applicant  
OXONICA LIMITED

#### 1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

#### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

#### 3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office - P.B. 5818 Patentlaan 2  
NL-2280 HV Rijswijk - Pays Bas  
Tel. +31 70 340 - 2040 Tx: 31 651 epo nl  
Fax: +31 70 340 - 3016

Authorized Officer

Neys, P

Telephone No. +31 70 340-4183



## Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
 This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:  
 a sequence listing  
 table(s) related to the sequence listing
  - b. format of material:  
 in written format  
 in computer readable form
  - c. time of filing/furnishing:  
 contained in the international application as filed.  
 filed together with the international application in computer readable form.  
 furnished subsequently to this Authority for the purposes of search.
3.  In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**VI. OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/GB2004/002891

**Box No. II Priority**

1.  The following document has not been furnished:

copy of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(a)).  
 translation of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2.  This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3.  It has not been possible to consider the validity of the priority claim because a copy of the priority document was not available to the ISA at the time that the search was conducted (Rule 17.1). This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

4. Additional observations, if necessary:

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or  
industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims No: Claims	1-44
Inventive step (IS)	Yes: Claims No: Claims	1-44
Industrial applicability (IA)	Yes: Claims No: Claims	1-44

2. Citations and explanations

see separate sheet

**Box No. VI Certain documents cited**

1. Certain published documents (Rules 43bis.1 and 70.10)  
 and / or

2. Non-written disclosures (Rules 43bis.1 and 70.9)

see form 210

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING  
AUTHORITY (SEPARATE SHEET)**

International application No.  
PCT/GB2004/002891

**Re Item V.**

The following documents are referred to in this communication:

- D1: WO 01/40114 A
- D2: WO 99/60994 A
- D3: US-A-5 441 726
- D4: EP-A-0 526 712
- D5: PATENT ABSTRACTS OF JAPAN vol. 2000, no. 09, 13 October 2000  
(2000-10-13) & JP 2000 169339 A (POLA CHEM IND INC), 20 June 2000  
(2000-06-20)
- D6: US-B-6 436 3741
- D7: US-A-5 736 308
- D8: US 2001/039308 A1
- D9: US-A-3 293 037
- D10: US-A-3 317 321

1. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

D1 (relevant passages see search report) discloses UV light screening compositions, e.g. sunscreen compositions, paints, varnishes, comprising a doped titanium dioxide or doped zinc oxide particles, which can be coated.

D2 (relevant passages see search report) discloses UV light screening compositions, e.g. sunscreen compositions, paints, varnishes, comprising a doped titanium dioxide or doped zinc oxide or reduced zinc oxide particles, which can be coated.

D3 (relevant passages see search report) discloses a composition for application to a surface, e.g. sunscreen, paint, varnishes, fabric protectants, to protect the surface from UV radiation comprising doped zinc oxide rods.

D4 (relevant passages see search report) discloses dual purpose foundation comprising  $TiO_2$  doped with  $Fe_2O_3$ .

D5 (relevant passages see search report) discloses a cosmetic composition comprising doped  $TiO_2$  or doped  $ZnO$  as a shielding powder.

D6 (relevant passages see search report) discloses a cosmetic composition comprising butylmethoxydebenzoylmethane as a UV filter and doped  $\text{TiO}_2$ .

D7 (relevant passages see search report) discloses a photographic silver halide material comprising UV absorbing compounds and  $\text{TiO}_2$  containing iron oxide.

D8-D10 (relevant passages see search report) disclose polymeric compositions comprising doped  $\text{TiO}_2$  or doped  $\text{ZnO}$ .

2. Dependent claims 2-38 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).

At least one of the documents D1-D10 discloses the features of the dependent claims 2-38.

3. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 39-44 is not new in the sense of Article 33(2) PCT.

It is explicitly stated in D1 and D2 that the presence of the doped  $\text{TiO}_2$  and/or doped  $\text{ZnO}$  and/or reduced  $\text{ZnO}$  reduces the degradation of compounds which are adversely affected by UV light the presence of  $\text{TiO}_2$  and/or  $\text{ZnO}$ .

In D3 it is said that by doping the UV absorbance properties of  $\text{ZnO}$  are increased

The function of the doped  $\text{TiO}_2$  in D6 is to improve the photostability of the UV filter.